

REMARKS

The Office Action of October 22, 2004 has been carefully considered.

Objection has been raised to claim 11, and the requested correction has been made.

Claims 1-16 have been rejected under 35 USC 112, 2nd paragraph on the grounds that claims 1 and 12 omit the step of adding a header and checksum after segmentation of the bit stream.

Independent claims 1 and 12, and dependent claim 16 have been amended to delete the reference to a header, and are now considered to be complete. Support for this amendment can be found in the specification on page 6, line 26 which discusses adding a tag to the segment (not to a header of the segment), and in Figures 1a and 1b.

Regarding claims 2, 11 and 13, the Office Action states the phrase "HDLC-like" renders the claims indefinite. It is respectfully submitted that "HDLC-like" is a term of art well known to the one of ordinary skill in the art, and is even defined by an International Standard. As set forth in ISO/IEC 3309:1991(E), "Information Technology - Telecommunications and information exchange between systems- High-level data link control (HDLC) procedures - Frame structure", International Organization For Standardization, Fourth edition 1991-06-01, the HDLC frame structure is:

FLAG	ADDRESS	CONTROL	INFORMATION	FCS	FLAG
8 bits 01111110	8 bits	8 / 16 bits	Variable (N*byte)	8/16/32	8 bits 01111110

and the HDLC-like frame structure is: (RFC 1662)

FLAG	ADDRESS	CONTROL	Protocol	INFORMATION	FCS	FLAG
8 bits 01111110	8 bits 11111111	8 bits (only) 00000011	8/16 bits	Variable (N*byte)	16/32 bits	8 bits 01111110

Thus, Applicants have shown that the terminology used in claims 2, 11 and 13 is clear and definite to those of ordinary skill in the art.

Withdrawal of this rejection is requested.

Claims 1, 3, 4, 7-9 and 10 have been rejected under 35 USC 102(e) as being anticipated by US Patent No. 6,331,978 to Ravikanth. The Office Action alleges that Ravikanth discloses a method for data transmission comprising adding a label to the front of a datagram, where adding a label is interpreted as adding a tag, and where the datagram is interpreted as a segment. The presence of a datagram has also been interpreted as being preceded by a form of segmentation of a data stream.

None of the prior art known to Applicants or cited in the Office Action disclose the critical initial step of the claimed invention of segmenting an incoming bit stream of data of one or more services. This step permits the data received in a variety of different protocols from a variety of different services to be combined into packets without regard to their original protocols. The segmented data is tagged and encapsulated into a packet which acts like a conventional PPP packet which can be mapped onto a conventional transmission frame, such as a Packet over SONET frame. This is not possible with the prior art methods, and the invention thus provides a novel method for creating packets, particularly multi-service packets.

The patent to Ravikanth utilizes datagrams which are pre-formed packets, and relates only to single service packets (packet-based services). There is no teaching or suggestion in Ravikanth of segmenting a data stream of data of more than one service, as taught by the invention. As stated at col. 5, lines 1-4, of the Ravikanth, the invention disclosed therein provides a generic label encapsulation protocol for carrying

label switched packets over serial links. The protocol enables carrying of a label and an associated packet in a fashion that will enable easy switching by the label switching router (LSR) 150, 152 (col. 5, lines 18-23). The original payload is a variable size packet (col. 5, lines 34-39), which is referred to in the patent as a datagram. The patent also teaches a method of detecting the end of the packet without having to look inside the payload (col. 6, lines 20-23).

Thus, the Ravikanth patent relies on ready-made packets, and does not create packets itself, from services data, as occurs according to the claimed invention.

In the method of the claimed invention, on the other hand, data from a wide variety of services, of which packet-based services are only one example, is segmented and combined into multi-service packets. As stated in the specification on page 7, lines 14-22, the internal construction of the frame or segment is irrelevant, as far as the packet processing of the present invention is concerned. Thus, data from different services, which do not have a common packet structure, and which may have no packet structure at all, may be segmented according to the invention and processed into a common packet structure. This saves bandwidth by mixing services, resulting in more efficient utilization of network resources.

Regarding claims 3, 4 and 7, Applicants are not claiming packet over SONET packets or data scrambling *per se*, but only in the context of the claimed method.

Withdrawal of this rejection is requested.

Claims 2, 5, 6, 11 and 13 have been rejected under 35 USC 103(a) over Ravikanth in view of the article to Ndousse. The Office Action alleges that Ravikanth fails to disclose the use of HDLC frames, which are disclosed by Ndousse.

Similarly, Ravikanth and Ndousse disclose using packet

over SONET/SDH.

The patent to Ravikanth has been discussed in detail above, and Applicants rely on that discussion.

The Ndousse article on PPP Extensions examines the dynamics of IP traffic over SONET/SDH using PPP in HDLC-like framing (Abstract). Like Ravikanth, the Ndousse article refers to only packet services and discloses that PPP has been found to be an efficient method for mapping IP Packets in HDLC-like frames directly into SONET/SDH payloads (page 576, col. 2). Also like Ravikanth, there is no disclosure or suggestion in Ndousse of segmenting a data stream of a variety of services data for combining into packets regardless of original protocol. Thus the combination of Ravikanth and Ndousse would not generate the novel multi-service packets of the claimed invention, but only previously prepared, single service packets.

Furthermore, Applicants are not claiming encapsulating PPP packets in HDLC-like frames or utilizing packet over SONET/SDH frames *per se*, but only in the context of segmented data services streams, according to the claimed method.

Withdrawal of this rejection is requested.

Claims 12 and 14-16 have been rejected under 35 USC 103(a) over Ravikanth. The Office Action alleges that it would be obvious to provide an engine having modules to carry out the method of Ravikanth.

The method of Ravikanth has been described in detail above. Providing an engine to carry out this method would not include the crucial segmentation module of the claimed invention for segmenting an incoming bit stream of data of at least one service. Unlike Ravikanth, the claimed invention deals with multi-service data which do not have a common packet structure and may have no packet structure at all, for

example, TDM services. The segmentation module proposed in the application is crucial to create a common packet structure (which is not IP and unlike conventional packet structures).

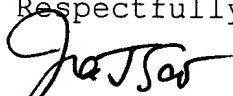
Regarding claims 14 to 16, Applicant is not claiming utilizing packet over SONET/SDH or adding an MPLS label to a data segment *per se*, but only in the context of segmented data services streams, according to the method of the invention.

Withdrawal of this rejection is requested.

The prior art made of record but not relied upon is less relevant than that discussed and distinguished hereinabove.

In view of the foregoing amendments and remarks, Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



Ira J. Schultz

Registration No. 28666